



3rd
INTERNATIONAL WORKSHOP
ADVANCES IN CLEANER PRODUCTION

“CLEANER PRODUCTION INITIATIVES AND CHALLENGES FOR A SUSTAINABLE WORLD”

Evaluation of the Use of Recyclable Materials for Heating Water in Swimming Pools

D. V. B. Pereira^a, A. Pasqualetto^b, O. R. dos Santos^b

a. Pontifícia Universidade Católica de Goiás – PUC Goiás.

*b. Pontifícia Universidade Católica de Goiás – PUC Goiás. pasqualetto@pucgoias.eud.br.
Instituto Federal de Educação Ciência e Tecnologia de Goiás – IFG. pasqualetto@ifg.edu.br*

Abstract

With the population growth and mechanization increased the demand for electricity in Brazil that causes significant environmental impacts with the construction of hydroelectric plants. Solar power helps reduce energy consumption in power plants, due to high levels of solar radiation and by being a source of renewable energy. The construction of solar collectors of recyclable materials such as PET and Tetra Pak is a way to minimize the cost of a solar collector system, solar water heating in swimming pools and consumption of electricity. This project aims to evaluate the use of recyclable materials for heating water in swimming pools, through library research and its deployment on a farm with surface area of 50 m². In assessing the thermal system (solar collector and tank), has an efficiency of 28% and a reduction of deployment costs by 50 % with other systems

Keywords: *solar energy, warming, economy.*

“CLEANER PRODUCTION INITIATIVES AND CHALLENGES FOR A SUSTAINABLE WORLD”

São Paulo – Brazil – May 18th-20th - 2011